City of Renton Storm Water Management Program

City of Renton

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For the
National Pollutant Discharge Elimination System (NPDES)
Phase II Permit

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Introduction

This document has been prepared to meet the City of Renton's Western Washington Phase II Municipal Stormwater Permit (Permit) requirement for development of a Stormwater Management Program (SWMP).

The City's SWMP is designed to develop numerous actions and activities to reduce the discharge of pollutants from the City's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP) to meet Washington State's All Known and Reasonable Treatment (AKART) requirements, and protect water quality. This goal is accomplished by the inclusion of all Permit SWMP components, minimum measures and implementation schedules into the City's SWMP.

Where the City is already implementing actions or activities called for in the SWMP, the City will continue those actions or activities regardless of the schedule called for in this document.

As part of the implementation of the City's SWMP, the City will gather, track, maintain and use information on an on-going basis to evaluate the SWMP development, implementation, Permit compliance, and to set priorities. Beginning no later than January 1, 2009, the City will begin to track the cost (or estimated cost) of development and implementation of each component of the SWMP.

This document will be evaluated and updated at least annually for submittal with the City's Annual Report to the Department of Ecology by March 31st each year as required per the permit. The following document sections are arranged per the Permit requirements as laid out in **section S5.C**. This SWMP includes a description of each City program component per S5.C and additional actions implemented by the City as an extra to the Permit or as a response to compliance with Total Maximum Daily Load Requirements (TMDLs).

The following SWMP is formatted with permit requirements in regular text type and italic text is how the City is addressing the permit requirements.

Section 1: Development, Implementation and Permit Compliance (S5.A.3)

The SWMP shall include an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation and permit compliance and to set priorities**.**

a) Beginning no later than January 1, 2009, each Permittee shall track the cost or estimated cost of development and implementation of each component of the SWMP. This information shall be provided to Ecology upon request.

Using its existing accounting system, the City started an Estimated Cost Tracking program with the purpose of obtaining an approximated cost of developing and implementing a SWMP by program components. The program components as defined by the permit are: Public Education, Public Involvement, IDDE, Control of Runoff from Development (Review and Inspection), and Operations and Maintenance. Under each component, types of activities that the City is likely to engage in over the current permit cycle were identified. Monitoring and General Permit Management are possible future components to be included.
The City tracks Permit related costs by approximating the expenditures spent from each City department by extracting out the percentage of NPDES program funds spent. Essentially, the cost tracking method derives an estimate for each department division by multiplying the division's annual operating expenditures by the percentage of division staff time spent of NPDES activities. This method captures the cost of salary and benefits as well as relative support costs, i.e. facilities, technical services, and administration supplies. Added to this estimate are CIP costs, i.e. professional service contracts for storm system inventory mapping and development of surface water design standards.

b) Each permittee shall track the number of inspections, official enforcement actions and types of public education activities as stipulated by the respective program component. This information shall be included in the annual report.

The City currently has a program for record keeping. This program highlights specific records and categorizes the records into three categories as explained below.

- *Category 1 records mainly fall into four components:*
  - *Public Education,*
  - *IDDE,*
  - *Development Review & Inspection, and*
  - *Operations & Maintenance.*

- *Categories 2 & 3 would be more informal records kept, maintained and updated by active members of the SWMP program.*
- *Spill Response Records: Spills are tracked and kept at the City. These spills are types that may pose an environmental or health hazard.*

Section 2: Public Education and Outreach (S5.C.1)

The City's SWMP includes an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the City. The goal of the education program will be to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. The City's education program may be developed locally or regionally.

Permit Requirements

The Phase II Permit (Section Section S5.C1) requires the City's SWMP to include an education and outreach program covering specified subjects and audiences. Section S5.C1.a-c lists the following requirements:

- Prioritize and address the target audiences and subject areas listed in the Permit based on stormwater issues.
- Develop education and outreach programs that are designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Measure changes in the understanding and adoption of behaviors by the target audience, and use that information to evaluate past programs, and to direct future programs.
- Maintain records of public education and outreach activities

Public Education and Outreach Program (S5.C.1.a)

No later than February 16, 2009, the City will provide an education and outreach program for the area served by its Municipal Separate Storm Sewer System (MS4). The outreach program will be designed to achieve measurable improvements in the target audience's understanding of the problem and what they can do to solve it.

The City of Renton maintains an active public education and outreach program with a variety of approaches to inform residents, businesses and developers about ways to prevent stormwater pollution. The program has been developed locally with input from regional organizations such as the STORM group, King County, WRIA 8 Salmon Recovery Council, WRIA 9 Watershed Ecosystem Forum, the Department of Ecology, and the Environmental Protection Agency. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts

Current Activities

The tables below organize Renton's educational program elements to meet Permit requirements for subject area and target audience. A list with descriptions of each program element follows the tables.

(Section i) Basic stormwater education. Audience: General public

Subject Area	Programs/sources covering subject area
General impacts of stormwater flows into surface waters.	• *City website links to Department of Ecology, EPA, and local environmental agencies info on stormwater impacts* • *City website: info on City Surface Water Utility, and Water Utility web pages* • *Water conservation education at science Fairs, Renton River Days, Water Festivals, adult education classes* • *Salmon watcher program (for raising general public awareness/interest in clean surface water)*
Impacts from impervious surfaces.	• *City partnership in WRIA 8 Salmon Recovery Council and WRIA 9 Watershed Ecosystem Forum*
Source control BMPs and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.	• *PugetSoundStartsHere.org - through regional participation in STORM. This multimedia outreach campaign to change behaviors that impact water quality* • *Storm drain marker volunteer program* • *FLYER – 10 Things You Can Do To Prevent Stormwater Pollution* • *City web page: info on car washing methods that protect water quality* • *Car wash kits provided to charity fund raisers* • *Press Release – Renton Reporter (3/26/10), circulation: 35,000* • *City website: homepage feature story on water quality and pollution prevention (3/26/10)*

(Section ii) Hazardous materials
Audience: Gen. public, businesses (including home-based and mobile businesses)

Subject Area	Programs/Sources covering subject area
BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.	• *Surface Water Utility web page* • *Aquifer Protection Program provides water quality and conservation education, (including information on the Renton Water Utility web page)* • *Partner with the Local Hazardous Waste Management Program (LHWMP), including EnviroStars - link provided on Renton website*
Impacts of illicit discharges and how to report them.	• *Puget Sound Starts Here (promoted by the City)* • *Surface Water Utility web page* http://rentonwa.gov/government/default.aspx?id=26375

(Section iii) BMPs for residential property maintenance.
Audience: Homeowners, landscapers and property managers.

Subject area	Programs/sources covering subject area

Subject area	Programs/sources covering subject area
Yard care techniques protective of water quality.	• *Puget Sound Starts Here (promoted by the City)* • *Natural yard care workshops program (2010) - A flyer advertising the 2010 Natural Yard Care workshop series was distributed as a utility bill insert in the mailing to all single-family households in Renton. Posters with event details were placed on community bulletin boards throughout the city. Details were posted on the City of Renton website and event calendar, in the local Renton Reporter, and on the Renton cable channel, Channel 21. Two workshops were filmed and broadcast on the City of Renton website and on Renton Cable Channel 21. Workshops taught strategies for reducing reliance on chemical fertilizers, and pesticide/herbicide use in home landscapes.* • *Natural yard care workshops program (2011) - A flyer advertising the 2011 Natural Yard Care workshop series was distributed as a utility bill insert to all single-family households in Renton. Posters with event details were placed on community bulletin boards throughout the city. Details were posted on the City of Renton website and event calendar, in the local Renton Reporter, and on the Renton cable channel, Channel 21. Four (4) workshops taught strategies for reducing reliance on chemical fertilizers, and pesticide/ herbicide use in home landscapes.*
BMPs for use and storage of pesticides and fertilizers.	• *Household Hazardous Waste Reduction workshops* • *City Landscape Management Practices Plan, including residential educational program* • *Displays at Renton River Days*
BMPs for carpet cleaning and auto repair and maintenance.	• *Car washing on lawn, need to repair leaks addressed in the Surface Water Utility web page and Puget Sound Starts Here web link* • *Educational materials handed out in conjunction with storm drain marker program addresses auto maintenance* • *City web page: Water Quality Guidelines for Carpet Cleaning Activities*

Subject area	Programs/sources covering subject area
Low impact development techniques, including site design, pervious paving, retention of forests and mature trees.	• *Puget Sound Starts Here (promoted by the City)* • *BROCHURE - Frequently Asked Questions, Renton's New Surface Water Design Standards (available on Surface Water Utility web page and City Hall, 6th floor)*
Stormwater pond maintenance.	• *City of Renton Storm Water Design Manual - Appendix A – provided on City website* • *Technical assistance to facility owner/managers provided by Surface Water Utility staff* • *BROCHURE – Private Storm Water Facilities Inspection Program (distributed to HOAs)*

(Section iv) Practices related to development, redevelopment & construction
Audience: Engineers, contractors, developers, review staff, land use planners

Subject area	Programs/sources covering subject area
Technical standards for stormwater site and erosion control plans	• *Permit review process through Development Services: erosion control plans, stormwater site plans, practices and field applications* • *BROCHURE - FAQ Renton's New Surface Water Design Standards*
Low impact development techniques, including site design, pervious paving, retention of forests and mature trees	• *BROCHURE - FAQ Renton's New Surface Water Design Standards* • *Policies in the Growth Management Act support Low impact development*
Stormwater treatment and flow controls BMPs	• *HANDOUT – Residential Building Permit Drainage Review (also available on City website)* • *Certified Erosion & Sediment Control Lead Training completed by City staff* • *Training provided to city staff engineers, plan reviewers, and inspectors.* • *Video training program within Public Works maintenance: 'Fundamental concepts and practices of stormwater pollution prevention for municipal operations'*

Education and Outreach Program Elements Descriptions

S5.C1.i Basic stormwater education. Audience: General public

City Web Page Education: The City Surface Water Utility and Water Utility each maintain a web page dedicated to providing water quality information. The web pages also include links to the Department of Ecology, King County, and 'Puget Sound Starts Here' websites. [Target Audience: General Public, Engineers, Contractors, Developers]

Water Conservation Education: The Water Utility presents water conservation education at science Fairs, Renton River Days, Water Festivals, adult education classes. [Target Audience: General Public]

Salmon Watcher: The City of Renton is a host municipality for the King County Salmon Watcher program. The City partners with the County in program planning, recruiting of volunteers & their training, annually. The City maintains a map of accessible sites within its jurisdiction, hosts a training session, and serves as a liaison for the volunteers & County within Renton's jurisdiction.

The City currently tracks salmon in the Cedar River Watershed through the Salmon Watcher Program. The City of Renton along with other regional jurisdictions participates in the Salmon Watcher Program. This program is designed to solicit active participation of citizens within the community. Staff members meet several times a year to develop programs that will encourage the participation of citizen volunteers. Volunteers are trained on how to identify, count and record salmon species as they spawn in local streams. [Target Audience: General Public]

Regional Watershed Planning (WRIA 8 & WRIA 9): The City participates in WRIA 8 Salmon Recovery Council and the WRIA 9 Watershed Ecosystem Forum involved in improving fish habitat water quality in response to the ESA listing for Chinook salmon. The City's WRIA involvement includes public education and public involvement activities. [Target Audience: General Public, Homeowners, Developers, Elected Officials, City staff]

Puget Sound Starts Here: Surface Water Utility staff is actively involved in The STORM Group (the Regional NPDES Education and Outreach Forum) and implementing the regional stormwater educational campaign 'Puget Sound Starts Here'. The STORM Group is a group of public education and outreach professionals from Phase I and Phase II jurisdictions within the greater Puget Sound area, working together to share and develop education and outreach programs and research. The STORM Group coordinates its regional stormwater education campaign efforts with the Puget Sound Partnership.

> *PSSH Regional Education Campaign: By collaborating with the 'Puget Sound Starts Here' the City's educational massage is consistent with an approved regional message. The campaign is being produced by the STORM (Stormwater Outreach Regional Municipalities) group of Puget Sound, and funded by a Washington*

Department of Ecology grant to assist municipalities with implementation of their NPDES permits. STORM's goal is to use social marketing to hopefully influence behavior that will result in improving water quality in the Puget Sound basin. The campaign has three focus areas: (1) managing pet waste, (2) vehicle maintenance (eliminating drips and carwash wastewater from surface waters), (3) home car (pesticides, herbicides, etc.). [Target Audience: General Public, Homeowners, City staff]

Storm Drain Marking: In 2009 the Surface Water Utility began a volunteer storm drain marker program. The intent is to educate citizens about how the storm water system functions, and how people's understanding and behaviors are essential to preventing pollutant materials from entering the storm drains, and ultimately into stream, river, lake and sound waters. Through this program, City staff coordinates volunteer groups to install markers with the 'Puget Sound Starts Here' logo on drain inlets. [Target Audience: General Public, Homeowners]

FLYER – 10 Things You Can Do To Prevent Stormwater Pollution: The storm drain marker volunteers also distribute informational flyers to local home owners. The flyers provide information on changing behaviors and practices to protect storm water quality. The flyer is also on the City website. [Target Audience: General Public, Homeowners]

The City of Renton will continue to set up alternate information sources such as posters, brochures and additional storm water website information related to impacts from impervious surface runoff. [Planned activity S5.C1.i]

Car Wash Kits: The City promotes, through its website, car washing methods that protect water quality. The City provides car wash kits for groups holding charity car wash events. The city also encourages, the use of charity car wash fundraiser tickets as a preferred option to holding car wash events. [Target Audience: General Public, Homeowners]

Press Release: A March 25, 2010, press release was carried by the Renton Reporter that informed readers about Renton's storm drain marker volunteer program. The article included educational information about how people's behaviors are essential to preventing pollutants from entering the region's waterways, and provided pollution prevention tips.

S5.C1.ii Hazardous materials
Audience: General public, businesses (including home-based and mobile businesses)

Solid Waste Utility web page: Provides information on hazardous waste reduction and recycling.

Aquifer Protection: The Renton Municipal Code (Section 4-3-050) Aquifer Protection Program contains provisions to protect the aquifer from contaminants by substances that could make our groundwater unfit to drink. This program includes land use restrictions in the Aquifer Protection Area, regulations that govern operating procedures for facilities located in the APA, public education, aquifer monitoring, hazardous waste

disposal, pesticide and fertilizer applications, reporting requirements and emergency response to chemical spills. [Target Audience: General Public, Homeowners, Developers, Businesses]

Hazardous Waste Management: Currently, the City is a partner with and beneficiary of the services provided from the Local Hazardous Waste Management Program (LHWMP), including the EnviroStars Program. The EnviroStars Program provides businesses with recognition for reducing hazardous waste, while giving customers an objective way to identify environmentally sound practices. These proactive businesses are rated from two to five stars and receive program benefits according to the star level. Under the LHWMP the public is provided with general descriptions of how Renton and the LHWMP work cooperatively to protect natural resources and the environment. [Target Audience: General Public, Businesses]

In addition, the LHWMP minimizes the risks to people and property presented by storage and use of hazardous chemicals by providing information to businesses and by collecting household hazardous wastes. The program supports proper management, disposal, and reduction of moderate risk wastes. The Renton Solid Waste Utility has provided collection of some household hazardous wastes at two (2) special collection events each year. The recycling events collect oil, antifreeze, oil filters, automotive and NiCad batteries, and refrigerators and freezers from the public at no cost to the public. This encourages the proper disposal and/or recycling of the material while helping to discourage illegal dumping. This regional program of local governments' works to protect Renton's aquifer that directly benefits the City's Water Utility and provides clean water to residents and businesses. The City has allocated resources that protect water resources for the purpose of drinking water, wildlife habitat, and recreation. [Target Audience: General Public, Homeowners, Businesses]

S5.C1.iii BMPs for residential property maintenance.
Audience: Homeowners, landscapers and property managers.

Natural Yard Care: Through 2009 the City's Natural Yard Care program targeted two neighborhoods each year where City staff conducted five workshops per neighborhood. This program targets alternative lawn care practices with emphasis on reducing or eliminating pesticides and efficient use of water for gardens. This program will be maintained as outlined in the Solid Waste Section work plan.

Staffing in 2009 changes required taking a new direction with the Natural Yard Care program, incorporating those concepts into the City's general Natural Yard Care program. This program included conducting a 2009 Natural Yard Care workshop, open to the general public. Approximately twenty-five (25) people attended. Concepts emphasized included how to reduce reliance on pesticides and chemical fertilizers through a number of "best practices" for gardening. Additionally, the workshop focused on backyard composting, and the addition of compost as mulch to the landscape. In 2010, the solid waste program held two (2) special recycle events, and hosted four (4) Natural Yard Care Workshops. The four Natural Yard Care Workshops held in 2010 are: 'Wildlife Friendly Gardening for Natural Pest Control', 'Natural Lawn Care',

'RainWise Gardening' and 'Choosing the Right Plant'. These workshops had 66 attendees total, and two workshops were filmed and broadcast on the City of Renton website and on Renton Cable Channel 21. For 2011, the solid waste program again held two (2) Special Recycling Events, and sponsored four (4) Natural Yard Care Workshops including: 'Fall Groundwork', 'Start with Soil', 'Sustainable Garden Design', and 'Love Your Lawn'. These workshops had 182 attendees total. [Target Audience: General Public, Homeowners]

Hazardous Waste Reduction: Past household hazardous waste reduction education program have included providing hands on hazardous waste reduction workshops to elementary school classes, and workshops to teach residents how to compost yard waste using a backyard compost bin and compost food waste using worm bins. Over 1000 backyard and worm compost bins have been distributed to City residents through the backyard composting program. [Target Audience: General Public, Homeowners]

Integrated Pest Management: The City follows landscaping pesticide use according to the "Landscape Management Practices Plan" that references City pesticides, insecticides, and fungicides management program and chemical usage information. Within this document is also a residential educational outreach program that would be targeted to frequent park users and high visitation sites by the public as well as outreaching and receiving comments from the public on relevant homeowner pest and chemical management concerns. [Target Audience: General Public, Homeowners, City staff]

Public Events: The City holds an event called Renton River Days every year whereby residents receive information from City employees. Information varies yearly and includes brochures and handouts to the public concerning the storm drain marker volunteer program, aquifer protection program, hazardous waste management program, integrated pest management program, catch basin inserts for car washes and salmon recovery efforts in the City. [Target Audience: General Public]

Stormwater Pond Maintenance: City of Renton Storm Water Design Manual - Appendix A contains maintenance requirements for typical stormwater control facilities. Surface Utility staff provides technical assistance to owners and managers of stormwater control facilities. Assistance provided includes distribution of a brochure, "Private Storm Water Facilities Inspection Program", which describes the purpose and benefits of flow and water quality control facilities and maintenance responsibilities for facilities.

S5.C1.iv Practices for development, redevelopment & construction
Audience: Engineers, contractors, developers, review staff, land use planners

Permit Review Education: The City has a permit review process through Development Services that reviews erosion control plans, stormwater site plans, practices, and field applications. Standards must be met to control stormwater and erosion control onsite. Public Works staff has increased awareness of technical standards for stormwater sites and erosion control plans, Low Impact Development techniques and tools. [Target Audience: Engineers, Contractors, Developers, Review Staff, Land Use Planners]

FAQ Brochure: Frequently Asked Questions, Renton's New Surface Water Design Standards (available on Surface Water Utility web page and City Hall, 6th floor) [Target Audience: Engineers, Contractors, Developers]

Handout: Residential Building Permit Drainage Review. The handout explains the need for flow control BMPs for residential development and provides information on drainage review and erosion control requirements. (Handout is also available on City website.)

Permit Review Education: The City has implemented a video training program within the Public Works Maintenance Division. This program describes the fundamental concepts and practices of stormwater pollution prevention for municipal operations and its negative effect on people, wildlife and the environment with a primary focus on operating BMPs. [Target Audience: City Field Staff, Review Staff]

Treatment and Flow Control BMP Training [Target Audience: City Staff]:

Storm Water Standards Training: The City has a permit review process through Development Services that reviews erosion control plans, stormwater site plans, practices, and field applications. Standards must be met to control stormwater and erosion control onsite. The City has developed and implemented training for Development Services and Public Works staff to inform them on Renton's new (effective February 10, 2010) Surface Water Design Standards. Included are technical standards for stormwater sites and erosion control plans, Low Impact Development techniques and tools.

CESCL Training: Surface Water Utility and Development Services staff are trained Certified Erosion & Sediment Control Leads.

Other BMP Staff Training: The City has implemented a video training program within the Public Works Maintenance Division. This pilot program describes the fundamental concepts and practices of stormwater pollution prevention for municipal operations and its negative effect on people, wildlife and the environment with a primary focus on operating BMPs.

The City plans on continuing all these education and outreach efforts as well as planning future mailings to select businesses that affect both the aquifer protection program as well as receiving surface water bodies within the City of Renton. S5.C1.iv (City Field Staff, Review Staff)

Measurement (S5.C.1.b)

The permit requires that each permittee measure the understanding and adoption of the targeted behaviors in at least one subject area, with the resulting measurements used to direct education and outreach programs most effectively, as well as to evaluate changes in adoption of the targeted behaviors. Renton's compliance is found in the following:

The City is measuring the understanding and adoption of the targeted behaviors and targeted audiences listed below with specific measurements for each

program. The resulting measurements will be used to direct education and outreach resources more effectively, as well as to evaluate changes in adoption of the targeted behaviors.

Target Audience: General Public - Storm Drain Marker Volunteers

Subject Area: Source control BMPs and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance and landscaping.

Program description: In 2010, the City initiated a program to educate the general public through a volunteer program to install storm drain markers and (for selected projects) distribute educational flyers to residences in the area of installation. The markers are labeled with the Puget Sound Starts Here (PSSH) logo. The flyers feature an image of the storm drain markers, which helps residents make the connection between the flyer content and the markers installed in their neighborhood. The flyer reflects the PSSH message that individuals can make a difference by making small changes to their daily behaviors. It describes 10 things that individuals can do to prevent stormwater pollution, including categories of car maintenance, pet waste management and yard care.

Program Measurement: The effectiveness of the Storm Drain Marker Volunteer program to encourage the targeted audience to adopt changes is measured by surveying the volunteer groups. The volunteer participants complete a survey at the beginning of the project, before they are given education on storm drain pollution prevention and the purpose of the storm drain marker and informational flyer distribution project. At the end of the project the participants complete a second survey. City staff compares the survey responses and evaluate the improved understanding. The second survey also asked participants which listed behaviors they will be adopting or continuing. The listed behaviors are:

- *Use a commercial car wash and have car fluid leaks repaired.*
- *Use fertilizers and pesticides sparingly, or just use compost.*
- *Pick up dog waste, bag it and place it in the trash.*
- *Use natural cleaning products, including detergents that do not contain phosphorus. For other cleaning needs, avoid products that contain "Poison" or "Danger" on the label.*

Evaluation Conclusions:
From evaluating the surveys and from volunteer feedback it is clear that the storm drain marker program is successful in meeting its purpose to inform the target audience of the problem of stormwater pollution, and to influence behavior that can contribute to improving water quality in the Puget Sound basin. The program is successful for the following reasons:

- *Ninety-seven percent (97%) of the participants surveyed stated that they would adopt or continue specific behaviors that help reduce the amount of pollution carried into streams, lakes, and Puget Sound by stormwater.*

- *Citizen volunteers developed an increased understanding about how the storm water system functions, and how people's understanding and behaviors are essential to preventing pollutant materials from entering the storm drains, and ultimately into stream, river, lake and Puget Sound waters.*
- *Volunteer project managers reported that volunteers had many positive interactions conveying the storm drain marker message to residences in the neighborhoods where they were installing storm drain markers and distributing educational flyers.*
- *To date, 1,913 markers have been installed and 4,515 educational flyers distributed.*

Target Audience: General Public - Natural Yard Care Workshops (2010)

Subject Area: To increase residents' knowledge of "best practices" for managing their yards.

Program description: Renton's Natural Yard Care program targets alternative yard care practices with emphasis on reducing or eliminating pesticides/herbicides and chemical fertilizers, and efficient use of water for gardens. The 2010 program workshops were designed to teach Renton citizens King County's designated "best practices" for landscape management through a sequence of four free, subject-specific workshops offered from mid-September to early November.

Program measurement: Each of the four Natural Yard Care workshops was individually evaluated through a pre- and post-workshop survey. The pre-workshop surveys measured attendees' existing knowledge and practice of specific natural yard care techniques. Following each workshop, respondents were asked to consider how often they would practice specific techniques in the future. Individuals who wished to win free natural yard care prizes were asked to complete an additional Natural Yard Care Pledge form.

The City of Renton's 2010 Natural Yard Care program was successful for the following reasons:

- *All four workshop presenters addressed King County's Five Steps to Natural Yard Care through unique content material. This four-workshop series was designed to teach the public about King County's basic steps to practice natural yard care. Each of the four presenters covered at least three of these principles while offering their own expertise and personal touch to make each workshop unique and interesting.*
- *Overall workshop attendance was high. In 2009 the City of Renton hosted one Natural Yard Care workshop that was attended by twenty-five people. In 2010 a total of sixty-six Renton residents participated in the Natural Yard Care program, with many participants attending more than one workshop*

Target Audience: General Public - Natural Yard Care Workshops (2011)

Subject Area: To increase residents' knowledge of "best practices" for managing their yards.

Program Description: Renton's Natural Yard Care program targets best yard care practices with emphasis on reducing or eliminating pesticides/herbicides and chemical fertilizers, and efficient use of water for gardens. The 2011 program workshops were designed to teach Renton citizens King County's designated "best practices" for landscape management through a sequence of four free, subject-specific workshops offered from mid-September to mid-October.

Program Measurement: Each of the four Natural Yard Care workshops was individually evaluated through a pre- and post-workshop survey. The pre-workshop surveys measured attendees' existing knowledge and practice of specific natural yard care techniques. Following each workshop, respondents were asked to consider how often they would practice specific techniques in the future. Individuals who wished to win free natural yard care prizes were asked to complete an additional Natural Yard Care Pledge form.

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- *All four workshop presenters addressed King County's Five Steps to Natural Yard Care through unique content material. This four-workshop series was designed to teach the public about King County's basic steps to practice natural yard care. Each of the four presenters covered at least three of these principles while offering their own expertise and personal touch to make each workshop unique and interesting.*
- *Workshop attendance was high and continues to grow each year. In 2009 the City of Renton hosted one Natural Yard Care workshop that was attended by twenty-five people. In 2010 a total of sixty-six Renton residents participated in the Natural Yard Care program, with many participants attending more than one workshop. In 2011, attendance increased by 21% with eighty individuals attending at least one class of the four-class series. The majority of these individuals attended more than one class, with a total attendance of 182 across all four classes.*
- *Overall, workshop attendees learned new natural yard care principles and techniques. Survey results showed that 92% of respondents learned new information about landscape "best practices" and 97% of respondents committed to practice natural yard care techniques.*

Target Audience: City Public Works Maintenance Employees

Subject Area: Good housekeeping, spill prevention, and materials storage and handling

Program description: The City currently uses a video training program to educate employees on various aspects good housekeeping aspects of the Permit. A test is provided to the staff to measure understanding. We encourage trainees to provide us with their names in the test, but this information is not required, since we use the scores as samples. Ninety-three percent of the staff trained in this program obtained scores greater than 70 percent correct. This is a good measure to the City that the existing training program is working well and provides the City with areas to improve field staff performance.

Program measurement: Beginning 2009, the City provides a generic evaluation sheet developed by the Public Works Department for training to City employees. This mechanism is used to measure understanding and changes in behavior.

Target Audience: Businesses

Subject Area: BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.

Program description: The Aquifer Protection Program provides water quality and conservation education through business site inspections and by providing information on the Water Utility web page.

Program measurement: The table below shows the documentation process for measurement understanding within the Aquifer Protection Program.

City of Renton Aquifer Protection Program		
Documentation of education and outreach activities	*Approximately 66 businesses, including government agencies and schools, are currently operating under the Aquifer Protection Ordinance initiated in 1992. Training information and material including brochures are provided to new businesses. Each employer in the program is responsible to provide annual employee training and keep hazardous material disposal records.*	*There were no new businesses operating within the Aquifer Protection Area in 2008. In 2009, there were 35 new businesses operating within the Aquifer Protection Area Zone 1 and 87 businesses within Zone 2. There were no new businesses added to the Aquifer Protection Area in 2010. There were no new businesses in 2011.*
Knowledge and awareness	*Under this program, businesses are suggested to be annually inspected. As part of this process, the inspector fills out a Facility Code Compliance Survey.*	*This document provides the inspector specific information on terms like current hazardous materials inventory statement and numbers of spills reported by calling 911 among others.*

Behavior Change	*Under this program, annual inspections are expected to observe changes. (After inspections, businesses are provided a one year operating permit.)*	*All businesses within the Aquifer Protection Area are in compliance.*

The City plans on conducting a survey to create awareness from which to measure future improvements and to participate in a regional effort to find effective ways to track measurable improvements. The City plans on continuing to track its education and outreach efforts by documenting if outreach efforts are working after discussions with outreach participants are conducted.

Tracking (S5.C.1.c)

The City will track and maintain records of public education and outreach activities.

The City is in compliance.

Section 3: Public Involvement and Participation (S5.C.2)

The SWMP will include ongoing opportunities for public involvement through advisory councils, watershed committees, and participation in developing rate structures, stewardship programs, environmental activities or similar activities. The City will comply with applicable State and local public notice requirements when developing its SWMP.

The City will take the following actions and conduct the following activities:

Opportunities for Public Participation (S5.C.2.a)

No later than **February 16, 2008**, the City will create opportunities for the public to participate in the decision-making processes involving the development, implementation and update of the City's SWMP document for the NPDES Permit.

The City encourages public comment and participation in the development and implementation of the SWMP throughout the four year process. The City is utilizing the following venues in an effort to keep our residents informed on the progress of the SWMP, so they can provide comments and input as the SWMP develops: 1) web page; 2) Public Notices in the Renton Reporter; and 3) City Council Meetings.

In addition, NPDES updates will be given and comments solicited from the Permit Process Stakeholders Group during their annual meeting with City Staff, beginning in November of 2008.

The City is provides opportunities for the public to suggest improvements. On Feb. 1, 2010, the City of Renton adopted Ordinance No. 5526. This ordinance amends the City stormwater code with new surface water design standards for new development, re-development and construction sites. As written in this ordinance, Renton adopted the 2009 King County Surface Water Design Manual, with City Amendments. The ordinance adoption process included posting a draft ordinance on the City's website and requesting public comment. Additionally, the Utilities Committee meetings that reviewed and recommended the final ordinance, as well as the Council approval, were all open to the public.

The City is currently updating its Renton Surface Water Utility Master Plan (RSWUMP) that will provide a more detailed surface water management plan. The RSWUMP shall contain the City's future capital program, maintenance operations, financial impacts and FTE analyses, history, policies, coordination of planning process, drainage basin descriptions, regulatory requirements, current surface water program, future program needs, and recommendations. The City is planning a public meeting in 2012 for consideration of public comments on its RSWUMP.

The City participates in the WRIA 8 Forum and the WRIA 9 Watershed Ecosystem Forum. The forums' council members include citizens, elected officials, and business representatives. Meetings encourage public involvement and participation, and address surface water policies and projects that positively impacts the member's municipal surface water programs.

The City currently has several ongoing public involvement and participation activities that complement the City's public education and outreach activities including but not limited to a series of Council Committees comprised of residents and business owners in the City of Renton who participate by commenting during the decision making processes. The City Council and Utilities Committee have budget and policy authority over all Surface Water Utility projects and programs. In addition, the City has public meetings to discuss projects and plans relevant to surface water issues. These meetings are open to the public and to public comments.

Renton is a member of the Cedar River Council, which includes public participation. Renton staff give presentations on Surface Water programs and utility projects, as well as related water quality and habitat topics.

Renton plans on continually complying with the permit by including the following:

1. *Defining public involvement opportunities for each annual SWMP update and reporting process.*
2. *Continuing to make the NPDES SWMP document and annual report available on the City website for public viewing.*
3. *Updating the City NPDES SWMP document and summarizing annual activities within this document.*
4. *Continuing current public involvement and participation and activities already initiated by the City.*
5. *Providing opportunities for the public to comment on the SWMP through the city website and public comments recorded at the City Council Meeting.*
6. *Continuing to meet with the City's various homeowner associations to discuss potential City decisions to takeover maintenance of all flow control and water quality facilities.*
7. *Continue to gather suggestions from the public with our website and publicly listed stormwater hotline.*

Availability of Documents (S5.C.2.b)

The City will make its SWMP, the annual report required under S9.A of the City's Permit, and all other submittals required by the Permit, available to the public. The annual report and the previous year's SWMP document will be posted on the City's website.

The City has established a website with the annual report and the past year's NPDES SWMP document available for public access. In addition, the City is providing the document electronically to the Department of Ecology.

Section 4: Illicit Discharge Detection and Elimination (IDD&E) (S5.C.3)

Within the Permit Section S5.C.3, the SWMP will include an ongoing program to detect and remove illicit connections and contaminated discharges as defined in 40 CFR 122.26(b)(2), and improper disposal, including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the City. The City will fully implement an ongoing illicit discharge detection and elimination program no later than August 19, 2011.

The City will take the following actions and conduct the following activities:

Development of MS4 Map (S5.C.3.a)

A municipal storm sewer system map will be developed no later than February 16, 2011. The municipal storm sewer system map will be periodically updated and will include the following information:

i. The location of all known municipal separate storm sewer outfalls and receiving waters and structural stormwater BMPs owned, operated, or maintained by the City. The City will map the attributes listed below for all storm sewer outfalls with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems:

- Tributary conveyances (indicate type, material, and size where known).
- Associated drainage areas.
- Land use.

ii. Each permittee should initiate a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the Permittee after the effective day of this permit.

iii. Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.

iv. The City will make available to Ecology, upon request, the municipal storm sewer system map depicting the information required in i. through iii. above.

v. Upon request, and to the extent appropriate, the City will provide mapping information to co-permittees and secondary permittees.

(The city has no co-permittees or secondary permittees.)

The City is in compliance with S5.C.3.a.

The City published a new map book in May 2009, and plans on continuing to update the storm system map to address data gaps and Permit conditions. In addition, the City has executed a consultant services contract as part of a $680K Storm System Mapping project to improve the mapping & inventory of the City's

storm system. The project includes adding new storm structures information, verifying areas lacking structure information, and mapping newly annexed areas' storm structures.

The City frequently updates and maintains a map of all connections to the municipal separate storm sewer, which are authorized or allowed by the City, to include new facilities or update existing data. This program allows the City to better isolate and contain IDDE problems and spills. The City storm map is continually being updated to include new developments and identifying upstream tributary connections with missing or inaccurate information. In addition, new annexations will be included and planned into the City storm mapping, with updates provided into each annual report, to the extent that the data is available from King County.

The City plans on incorporating supplemental information such as drainage complaints, billing accounts and spills into the existing stormwater GIS system.

The City's storm system mapping is public information that is available in the City Hall Development Services help desk area., In addition, the City is working on providing storm system mapping information that would be accessible and through the internet to the general public.

IDD&E Ordinance (S5.C.3.b)

The City will develop and implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illegal discharges, and/or dumping into the City's municipal separate storm sewer system to the maximum extent allowable under State and Federal law.

The City has adopted an ordinance in compliance with all the details listed below.

i. The regulatory mechanism does <u>not</u> need to prohibit the following categories of non-stormwater discharges:

- Diverted stream flows.
- Spring water.
- Rising ground waters.
- Uncontaminated ground water infiltration.
- Uncontaminated pumped ground water.
- Foundation of footing drains.
- Water from crawl space pumps.
- Air conditioning condensation.
- Flows from riparian habitats and wetlands.
- Discharges from emergency fire fighting activities.
- Discharges specified in writing by the authorized enforcement agency as being necessary to protect health and safety.
- Irrigation water from agricultural sources that is commingled with urban stormwater runoff.

ii. The regulatory mechanism will prohibit the following categories of non-stormwater discharges unless the stated conditions are met:

- Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges will be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.
- Discharges from lawn watering and other irrigation runoff. These will be minimized through, at a minimum, public education activities (see Section 1) and water conservation efforts.
- Dechlorinated swimming pool discharges. The discharges will be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash will not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The City will reduce these discharges through, at a minimum, public education activities (see section 1) and/or water conservation efforts. To avoid washing pollutants into the MS4, the City must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.
- Other non-stormwater discharges. The discharges will be in compliance with the requirements of the stormwater pollution prevention plan reviewed by the City, which addresses control of construction site de-watering discharges.

iii. The City's SWMP will, at a minimum, address each category in ii above in accordance with the conditions stated therein.

iv. The SWMP will further address any category of discharges in i or ii above if the discharges are identified as significant sources of pollutants to waters of the State.

v. The ordinance or other regulatory mechanism will include escalating enforcement procedures and actions.

vi. The City will develop an enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism.

Following are details about the City's ordinance complying with these permit requirements:

City Ordinance #5478 prohibits non-stormwater, illegal discharges, and/or dumping into the City's municipal separate storm sewer system, surface waters,

and ground water. City Ordinance #5478 was authorized on August 3, 2009 to meet the adoption permit deadline of August 16, 2009. The ordinance includes adoption of the 2009 King County Stormwater Pollution Prevention Manual. In February these discharge prohibition regulations were continued with the adoption of Ordinance #5526 (authorized with an effective date of February 10, 2010). Ordinance #5526 amends the City stormwater code with new surface water design standards for new development, re-development and construction sites. These ordinances meet the requirements of NPDES Phase II Permit Condition S5.C.3.b, including escalating enforcement procedures and actions.

The City implemented its IDDE program prior to August 19, 2011. This section presents general activities for this on-going IDDE program.

Currently, the City runs a telephone dispatch service through the police department that allows residents to call in and report a spill that will constitute a threat to human health, the environment and welfare anytime. Other storm drainage problems can be reported via this phone number or other published phone numbers even after hours. The dispatcher relays the message to the respective City department and division responsible for response to that call. The City tracks the call and whether there is a response to any actions necessary, or whether enforcement is needed. In addition, the City has a published phone number and email that allows the public to post questions and problems through the City website. The City periodically evaluates the hotline procedures, and updates, formalizes, and documents any new protocols established.

Additional IDDE program elements include continuing outreach efforts to educate the public on IDDE and how public actions affect the downstream conditions, on-going staff training on IDDE problems and how to identify and resolve the problems, and summarizing what steps the City is implementing in each annual report and SWMP document provided to Ecology. The City also has developed an outfall screening program.

The City currently implements activities and programs associated with IDDE that complies with the permit. The current compliance activities associated with the Permit requirements include:

- *City currently has an IDDE program.*
- *The City has codes and standards that address illicit discharges and civil infractions.*
- *Spill Response Standard Operating Procedures Manual.*
- *Outfall screening program.*
- *Staff training on IDDE problems and how to identify and resolve the problems.*
- *The City has an existing stormwater page on the City's website.*

- *The City maintains an up-to-date storm map with continual mapping occurring. The City has a standard operating procedure for keeping the municipal separate storm sewer system map and inventory up-to-date. The map is updated with new facilities or corrected for inconsistencies based on field verification.*
- *The City has a 24-hour hotline (425-430-7500), through the police department that allows citizens to call in with surface water complaints including illicit discharges, flooding, and other surface water related issues. A tracking mechanism currently receives these calls and routes them to appropriate City departments. The City plans on reviewing current and future public education and outreach programs for minimizing pollutant discharges, creating IDDE training program, reviewing updated IDDE codes to comply with the Permit, tracking and reporting issues that arise throughout all City departments affecting IDDE.*

Ongoing IDD&E Program (S5.C.3.c)

The City will develop and implement an ongoing program to detect and address non-stormwater discharges, spills, illicit connections and illegal dumping into the City's municipal separate storm sewer system. The program will be fully implemented no later than **August 19, 2011,** and will include:

i. Procedures for locating priority areas likely to have illicit discharges, including at a minimum: evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in spills.

ii. Field assessment activities, including visual inspection of priority outfalls identified in i, above, during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.

- Receiving waters will be prioritized for visual inspection no later than three years from **February 16, 2009**, with field assessments of three high priority water bodies made no later than **February 16, 2011**. Field assessments on at least one high priority water body will be made each year thereafter.
- Screening for illicit connections will be conducted using: *"Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*", Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness.

The City of Renton Surface Water Utility has prioritized City receiving waters for visual inspection to determine the potential severity of illicit discharge problems in the municipal separate storm sewer system. The methodology used was based on a desktop assessment described in Illicit Discharge Detection and Elimination:

A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004.

The Surface Water Utility has conducted outfall assessments of four high priority basins. The Surface Water Utility will continue outfall assessments for at least one high priority basin per year.

iii. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the City. Procedures will include detailed instructions for evaluating whether the discharge must be immediately contained and steps to be taken for containment of the discharge.

Compliance with this provision will be achieved by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe.

The City has developed Spill Response Standard Operating manual. This manual provides City staff with standard operating procedures for responding to spills within the city that threaten the storm drain system. It includes actions that City staff will take to comply with reporting requirements of the Department of Ecology's Western Washington Phase II Municipal Stormwater Permit (Condition G3).

iv. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

The City developed a Spill Response Standard Operating Procedures Manual in 2010 (updated August 16, 2011) that includes procedures for tracing the source of an illicit discharge, and developed a Outfall Assessment Program in 2010 (updated 2011) that includes sampling procedures. Procedures include field assessing, identification of illicit discharges, communicating to various stakeholders, configuring and deploying IDDE response system, tracking/resolving the system tie-ins, reporting to proper personnel (internally and externally), coordinating with various permit and resource agencies, and summarizing actions/results to all stakeholders.

v. Procedures for removing the source of the discharge; including notification of appropriate authorities; notification of the property owner; technical assistance for eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated.

Compliance with this provision will be achieved by initiating an investigation within 21 days of a report or discovery of a suspected illicit

connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, termination of the connection will be verified within 180 days, using enforcement authority as needed.

City of Renton Ordinance #5478, continued in the adoption of Ordinance #5526 (amending the City stormwater code with new surface water design standards for new development, re-development and construction sites), provides escalating enforcement and legal actions if a discharge is not eliminated.

Public Information (S5.C.3.d)

The City will inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

i. No later than **August 19, 2011**, the City will distribute appropriate information to target audiences identified pursuant to Section 1.

ii. No later than **February 16, 2009**, the City will publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. The City will keep a record of calls received and follow-up actions taken in accordance with Section 3.c.ii. through v. above; and will include a summary in the annual report (see section S9 of the City's Permit, *Reporting and Record Keeping Requirements*).

Information on illegal discharges and proper disposal are currently provided to targeted businesses and general public. Information is provided through the City website: Surface Water Utility web page (Puget Sound Starts Here); Water Utility web page (water quality and conservation); Storm Drain Marker Volunteer program; Natural Yard Care workshops; Aquifer Protection program; inspections of facilities that store hazardous materials; press release; public events; link to King County Local Hazardous Waste management program; and, City staff training on IDDE problems and how to identify and resolve the problems. Additionally, the City produces and distributes flyers to residences and home owners associations.

The City has evaluated the current hotline procedures, updated the phone numbers, and documented the protocols. The City web page has been updated to add the 24-hour hotline information encouraging citizens to report illegal discharges or illicit dumping to protect water quality. The calls to the hotline are usually recorded and distributed to the appropriate response authority according to a spill response matrix.

Program Evaluation and Assessment (S5.C.3.e)

The City will adopt and implement procedures for program evaluation and assessment, including tracking the number and type of spills or illicit discharges identified; inspections made; and any feedback received from public education

efforts. A summary of this information will be included in the City's annual report (see section S9 of the City's Permit, Reporting and Recordkeeping Requirements).

The City is in compliance. The City tracks identified IDDE incidents. The City is also implementing an improved asset management database that will log incident responses with work orders that can access GIS storm water assets.

Training for Municipal Staff (S5.C.3.f)

The City will provide appropriate training for municipal field staff on the identification and reporting of illicit discharges into MS4s.

i. No later than **August 16, 2009**, the City will ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, improper disposal and illicit connections are trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of the training provided and the staff trained.

Public Works Maintenance Division staff is trained in identifying, investigating, and cleaning up illicit discharges. On-going IDDE and BMP trainings are included in routine Public Works Maintenance staff safety meetings. This training emphasizes the importance of Best Management Practices, good housekeeping and spill response.

ii. No later than **February 16, 2010**, an ongoing training program will be developed and implemented for all municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system will be trained on the identification of an illicit discharge/connection, and on the proper procedures for reporting and responding to the illicit discharge/connection. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of the training provided and the staff trained.

The City has a training program that is assessed and planned during each employee's yearly performance review. The training review implements an ongoing employee training to more efficiently affect their abilities out in the field to assess stormwater maintenance issues which includes the City's IDDE program.

Across City departments, field employees have received training informing them about the importance of the NPDES program, and recognizing, reporting and responding to illicit discharges and connections.

Staff has received training produced by American Public Works Association, Washington Department of Ecology and Environmental Protection Agencies,

as well as training adapted from Snohomish County, and other sources for the City's on-going IDDE training program for field staff.

Additionally, field and in-house staff are certified on erosion and sediment control techniques that further assists in controlling runoff.

These trainings enable City employees to enhance their knowledge base on IDDE, controlling runoff, ordinances, monitoring, etc.

Section 5: Controlling Runoff from New Development, Redevelopment and Construction Sites (S5.C.4)

The City will develop, implement, and enforce a program to reduce pollutants in stormwater runoff to its MS4 from new development, redevelopment and construction site activities. This program will be applied to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. The program will apply to private and public development, including roads. The "Technical Thresholds" in Appendix 1 of the City's Permit will be applied to all sites 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

The City will take the following actions and conduct the following activities:

Ordinance (S5.C.4.a)

The program will include an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects. Pursuant to S5.A.2. of the Permit an ordinance or other regulatory mechanism will be in place prior to August 16, 2009. Existing City requirements to apply stormwater controls at smaller sites, or at lower thresholds than required pursuant to Section 4, will be retained. In addition, existing City ordinances will remain in place that currently may meet or exceed the minimum Permit requirements. The ordinance or other enforceable mechanism will be in place no later than August 16, 2009. The ordinance or other enforceable mechanism will include, at a minimum:

The City has an active program to reduce pollutants in stormwater runoff from new developments, redevelopments and construction site activities. The existing program applies to both public and private projects.

i. The Minimum Requirements, technical thresholds, and definitions in Appendix 1 of the City's Permit or an equivalent approved by Ecology under the NPDES Phase I Municipal Stormwater Permit, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 of the City's Permit will be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of basin plans or other similar water quality and quantity planning efforts. Such local requirements will provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1 of the City's Permit.

On February 1, 2010, the City of Renton adopted Ordinance No. 5526. This ordinance amends the City stormwater code with new surface water design standards for new development, re-development and construction sites. As written in this ordinance, Renton adopted the 2009 King County Surface Water Design Manual, with City Amendments. The amendments

to the King County Surface Water Design Manual clarify requirements that are specific to Renton and are different from the county manual.

The manual ensures that all developments including development less than one acre exceeding the thresholds defined in Appendix I of the Permit comply with all minimum requirements per section S5.C.4.a of the Phase II NPDES permit.

ii. A site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1 of the City's Permit (or equivalent approved by Ecology under the Phase I Permit) will protect water quality, reduce the discharge of pollutants to the maximum extent practicable and satisfy the State requirement under Chapter 90.48 RCW to apply all known, available and reasonable methods of prevention, control and treatment (AKART) prior to discharge. The City will document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy State AKART requirements.

Ordinance 5526, described above (S5.C.4.a.i), meets this requirement.

iii. The legal authority, through the approval process for new development, to inspect private stormwater facilities that discharge to the City's MS4.

City of Renton Ordinance No. 5526 requires new, private stormwater facilities to grant permission to the City for inspection purposes. The updated SWDM requires permit applications to include a Declaration of Covenant for Maintenance and Inspection of Flow Control BMPs.

iv. Provisions to allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID), measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation. Provisions for LID should take into account site conditions, access and long term maintenance.

The updated SWDM includes LID techniques to minimize creation of impervious surfaces. The City of Renton requires the implementation of Low Impact Development alternatives such as dispersion and infiltration for new development and redevelopment projects when feasible to mitigate for all target surfaces.

v. If the City chooses to allow construction sites to apply the "Erosivity Waiver" in Appendix 1 of the City's Permit, Minimum Requirement #2, the ordinance or regulatory mechanism will include appropriate, escalating enforcement sanctions for construction sites that provide notice to the City of their intention to apply the waiver but do not meet the requirements (including

timeframe restrictions, limits on activities that result in non-stormwater discharges, and implementation of appropriate BMPs to prevent violations of water quality standards) to qualify for the waiver.

As written into the City's updated Surface Water Design Manual, waivers are not permitted. The City of Renton requires all projects to comply with sediment and erosion control (core requirement #5), including small projects. Appendix D describes sediment and erosion control measures applicable to all projects not qualifying for small project drainage review. Projects that trigger small project drainage review, shall comply with the sediment and erosion control criteria described in Appendix C (small project drainage review).

Permitting Process (S5.C.4.b)

The program will include a permitting process with plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in *Definitions and Acronyms*). At a minimum, this program will be applied to all sites that disturb a land area one acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. The process will be in place no later than August 16, 2009.

i. Except as provided in Section 4.b.vii. below, review of all stormwater site plans for proposed development activities.

The City has a review process for all of its stormwater site plans for proposed development activities. The clearing and grading code and the drainage code address construction site temporary erosion and sedimentation control. In addition, the construction of permanent storm flow control and water quality treatment facilities are reviewed by the City during the permit review process and construction activities. Monitoring is recorded by City inspectors. The City Surface Water Utility and Development Services Plan Review Sections provides drainage review of new developments and redeveloped site plans to ensure compliance with all sections of the City adopted 2009 King County Surface Water Design Manual and City amendments.

ii. Except as provided in Section 4.b.vii. below, inspect, prior to clearing and construction, all known development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 of the City's Permit, *Identifying Construction Site Sediment Transport Potential*.

Areas where the City knows of high potential for sediment transport have been determined within the City. New annexed areas will be evaluated on an on-going project basis with new developments having high

erosivity areas marked. All new developments are brought through the plan review process which includes a requirement on providing for BMPs to control erosivity.

iii. Except as provided in Section 4b.vii. below, inspect all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.

Inspection of projects is assigned through the assignment of a City construction inspector for all projects requiring a Public Works Construction Permit to inspect on-site erosion and sediment control BMPs.

iv. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs. Also, verify a maintenance plan is completed and responsibility for maintenance is assigned. Enforce as necessary based on the inspection.

The City inspectors conduct a final inspection of all newly constructed stormwater facilities, redlines any discrepancies between what was constructed and the plans, and turns the plans over to maintenance personnel for final redlines prior to final approval or occupancy. Currently, inspection logs are kept for each project. The existing inspection recordkeeping process is being reviewed for potential overhaul.

v. Compliance with the inspection requirements in ii, iii and iv above will be determined by the presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections.

vi. An enforcement strategy will be developed and implemented to respond to issues of non-compliance.

vii. If the City chooses to allow construction sites to apply the "Erosivity Waiver" in Appendix 1 of the City's Permit, Minimum Requirement #2, the City is not required to review the construction stormwater pollution prevention plans as part of the site plan review in (i) above, and is not required to perform the construction phase inspections identified in (ii) and (iii) above related to construction sites which are eligible for the erosivity waiver.

As written into the updated SWDM, waivers are not permitted, all development project submittals need to include sediment and erosion control measures.

Long-term Operation and Maintenance (S5.C.4.c)

The program will include provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs that are permitted and constructed pursuant to (b) above. These provisions will be in place no later than February 16, 2009 and will include:

i. Adoption of an ordinance or other enforceable mechanism that clearly identifies the party responsible for maintenance, requires inspection of facilities in accordance with the requirements in (ii) through (iv) below, and establishes enforcement procedures.

ii. The City will establish maintenance standards that are as protective as or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 *Stormwater Management Manual for Western Washington*. For facilities which do not have maintenance standards, the City will develop a maintenance standard.

(1) The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between the period of inspections is not a Permit violation.

(2) Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance will be performed:

- Within 1 year for wet pool facilities and retention/detention ponds.
- Within 6 months for typical maintenance.
- Within 9 months for maintenance requiring re-vegetation.
- Within 2 years for maintenance that requires capital construction of less than $25,000.

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the City must document the circumstances and how they were beyond their control.

iii. Annual inspections of all stormwater treatment and flow control facilities (other than catch basins) permitted by the City according to Section 4.b. unless there are maintenance records to justify a different frequency.

Reducing the inspection frequency will be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may

substitute written statements to document a specific less frequent inspection schedule. Written statements will be based on actual inspection and maintenance experience and will be certified in accordance with G19 of the City's Permit, *Certification and Signature*.

iv. Inspections of all new flow control and water quality treatment facilities, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, every 6 months during the period of heaviest house construction (i.e., 1 to 2 years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

City of Renton Ordinance No. 5526 identifies the party responsible for maintenance and requires inspection of facilities. Per the updated SWDM, applicants will submit a declaration of covenant that identifies maintenance responsibilities, and right of inspection and maintenance.

City operations and maintenance crews apply BMPs to containing and minimizing pollutant runoff from municipal operations. City responsibilities include inspections of problem areas, inspections of customer complaints, and maintaining areas via vactoring out the pollutants from problem areas each year.

The City currently inspects private flow control and treatment facilities during plat construction. All new constructed facilities will be inspected as required per the updated Surface Water Design Manual standards. The standards require the developer to post a two year maintenance and defect bond. The City has funded a position to address inspections of new facilities permitted under the updated Surface Water Design Manual.

On October 18, 2010, Council approved a new program to assume maintenance and operation of all stormwater facilities in plats that manage runoff from public streets. The budget needed to implement the program was approved as part of the 2012 budget adjustment process and will be phased in over a few years. The Surface Water Utility has been inspecting the facilities and working with the Homeowners Associations (HOAs) to bring them up to City maintenance standards so that the facilities could be transferred to the City to assume maintenance starting in 2012. There are a sufficient number of facilities that have been properly maintained by the HOAs to warrant implementing half of the program in 2012 including hiring staff and purchasing equipment. The remaining half of the program would be implemented in 2014.

The City is also developing improvements to its GIS database, is implementing a new assets management database, and is implementing a new permits management database.

Municipal operation and maintenance activities related to utility installations, street cleaning, ditch maintenance and other City activities include, but are not limited to public streets, receiving public/private parcels, and parking.

The Surface Water Utility Maintenance Section currently has 12 FTEs, three vactor trucks and other equipment used to maintain and operate publicly owned stormwater management systems and facilities.

Record Keeping (S5.C.4.d)

The program will include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities will be maintained. The City will keep records of all projects disturbing more than one acre, and all projects of any size that are part of a common plan of development or sale that is greater than one acre that are approved after February 16, 2007.

The City maintains a record keeping system that includes permitting, enforcements, and construction inspections on private and public facilities construction projects. This is done through the City's code compliance process.

Currently, the City crews utilize a Maintenance Management System (MMS) that records time and resources spent on all cleaned pipelines, catch basins, ditches, replaced storm pipelines, cleaned vaults, and cleaned ponds related to the City's O&M activities. In addition, the City records areas cleaned and inspected on a yearly basis via paper maps.

Additionally, the City is developing improvements to its GIS database, is implementing a new assets management database, and is investigating acquisition of a new permits management database. In 2010 the City implemented a new MMS system (Enterprise Access Maintenance) that integrates with the GIS for future operations activities. In 2009, the City initiated a $680,000 Storm System Mapping project to improve the mapping and inventory of the City's storm system. This project includes filling in necessary field mapping information of unknown system areas. The mapping project is scheduled to continue through 2010.

Availability of NOIs (S5.C.4.e)

The City will make available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment. The City will continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.

NOI forms and information are currently provided within the City's Department of Community & Economic Development (Development Services Division.) Currently, Development Services directs proposed new and redevelopment projects to obtain these NOIs.

Development Services will now also provide information and NOI forms from the new Surface Water Design Manual to applicants at pre-application meetings to make them aware of this requirement if it is obvious that the project will be disturbing more than one acre of land or more.

Training (S5.C.4.f)

No later than August 16, 2009, the City will verify that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or staffing. The City will document and maintain records of the training provided and the staff trained.

Ongoing operations and maintenance training is currently provided, and documented for future annual compliance program reports. Curricula and staff training requirements for pollution prevention are currently on-going in-house and will be supplemented with further classes as offered through resources such as Regional Road Maintenance - Endangered Species Act Program Guidelines, as well as AWC and DOE when they become available.

The City has implemented a training program, including on-going training, for City staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement are continuously trained to perform these activities. This training is updated to cover the revised Surface Water Design Manual regulations pursuant to requirements of the Phase II NPDES permit. Inspector and plan reviewer staff are certified on erosion control (Certified Erosion and Sediment Control Lead).

Section 6: Pollution Prevention and Operation and Maintenance for Municipal Operations (S5.C.5)

By February 16, 2010, the City will develop and implement an operations and maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

The City will take the following actions and conduct the following activities:

Maintenance Standards (S5.C.5.a)

The City will establish maintenance standards that are as protective as or more protective, of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For facilities which do not have maintenance standards, the City will develop a maintenance standard.

i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a Permit violation.

ii. Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance will be performed:

- Within 1 year for wet pool facilities and retention/detention ponds.
- Within 6 months for typical maintenance.
- Within 9 months for maintenance requiring re-vegetation.
- Within 2 years for maintenance that requires capital construction of less than $25,000.

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the City will document the circumstances and how they were beyond their control.

Maintenance standard guidelines are established to comply with the permit requirements within three years of the effective date of the Permit (February 16, 2010). These maintenance standards contain the following:

1. *Training for maintenance staff emphasizes IDDE, and sediment and erosion control practices.*
2. *Maintenance standards for inspecting facilities. Effective February 10, 2010, the City adopted the 2009 King County Surface Water Design Manual, including Appendix A - maintenance standards. The City also adopted by reference the 2009 King County Stormwater Pollution Prevention Manual. The City currently follows an Integrated Pest*

Management policy for City-owned facilities that contains guidance and standard operating procedures for applying fertilizer and/or pest spraying, and storing chemicals, and sediment/erosion control. The City Parks Department is a certified Audubon Cooperative Sanctuary.

3. *All known municipally owned or operated treatment and flow control facilities are inspected and maintained at a minimum, annually.*
4. *Total inspection of all catch basins and inlets owned by the City at least once prior to the end of the Permit term with cleaning conducted on them if they are deemed out of compliance with the maintenance standards.*
5. *Erosion and sediment control of City projects and facilities are followed according to SWPPPs developed for each project that are greater than one acre in size and smaller projects, if drainage review is required, that includes the erosion control plans, practices, and procedures. In addition, general erosion and sediment control practices are followed according to the City's Operations Manager, who is a CESCL.*

General Inspections (S5.C.5.b)

Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control facilities, other than catch basins, and taking appropriate maintenance actions in accordance with the adopted maintenance standards. The annual inspection requirement may be reduced based on inspection records.

Reducing the inspection frequency will be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements will be based on actual inspection and maintenance experience and will be certified in accordance with G19 of the City's Permit, Certification and Signature.

Maintenance staff inspects and maintains public owned treatment and flow control facilities per adopted King County Storm Water Design Manual, Appendix A. Facilities are inspected annually. Inspections are done more frequently at historical problem areas within the City. Maintenance is performed as needed per inspection results.

Post-Storm Inspections (S5.C.5.c)

Spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major (greater than 24-hour-10-year recurrence interval rainfall) storm events. If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.

Major post storm checks are currently a work item of City personnel. Facilities that typically require post storm maintenance are inspected and receive sediment cleaning as needed following major storms.

Catch Basins and Inlet Inspections (S5.C.5.d)

Inspection of all catch basins and inlets owned or operated by the City at least once before the end of the City's Permit term. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the 2005 Stormwater Management Manual for Western Washington. Decant water will be disposed of in accordance with Appendix 6 of the City's Permit, Street Waste Disposal.

Inspections may be conducted on a "circuit basis" whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit at one time if the inspection sampling indicates cleaning is needed to comply with maintenance standards established under Section 4.c., above.

As an alternative to inspecting catch basins on a "circuit basis," the City may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.

The City has increased inspection frequency to comply with the Permit requirements and to establish a circuit basis for the inspections. When required, maintenance typically includes pipe cleaning, culvert cleaning, ditch maintenance, street cleaning, road/pipe repairs, and maintaining roadside areas including vegetation management.

Compliance (S5.C.5.e)

Compliance with the inspection requirements in a, b, c and d above will be determined by the presence of an established inspection program designed to inspect all sites and achieving inspection of 95% of all sites.

These compliance criteria are part of the maintenance and inspection standards established by the City prior to August 16, 2010.

Reduction of Stormwater Impacts (S5.C.5.f)

Establishment and implementation of practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the City, and road maintenance activities conducted by the City. The following activities will be addressed:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding

- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control

The City currently has an Operations and Maintenance Department that conducts all of these activities.

Policies and Procedures (S5.C.5.g)

Establishment and implementation of policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the City and subject to the City's Permit, including but not limited to: parks, open space, road right-of-way, maintenance yards, and stormwater treatment and flow control facilities. These policies and procedures will address, but are not limited to:

- Application of fertilizer, pesticides, and herbicides including the development of nutrient management and integrated pest management plans.
- Sediment and erosion control.
- Landscape maintenance and vegetation disposal.
- Trash management.
- Building exterior cleaning and maintenance.

The City currently possesses and follows a documented Integrated Pest Management policy that is applied to parks and open spaces. In addition, erosion control is applied upon projects to control sediment-laden runoff on City projects as well as private development projects. The City Parks Department is a certified Audubon Cooperative Sanctuary.

Training for maintenance staff emphasizes IDDE, and sediment and erosion control practices. Maintenance staff are state licensed applicators.

The City's Public Works Maintenance Division has committed to the Regional ESA Road Maintenance BMP Guidelines.

City projects and drainage facility maintenance are regulated by the City's adopted Surface Water Design Manual.

The City adopted by reference the 2009 King County Stormwater Pollution Prevention Manual. [City of Renton Ordinance No. 5478, August 3, 2009 & Ordinance No. 5526, February 10, 2010].

Training (S5.C.5.h)

Develop and implement an on-going training program for employees of the City whose construction, operations or maintenance job functions may impact stormwater quality. The training program will address the importance of protecting water quality, the requirements of the City's Permit, operation and maintenance standards, inspection procedures, selecting appropriate BMPs,

ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training will be provided as needed to address changes in procedures, techniques or requirements. The City will document and maintain records of training provided.

The City has maintenance crews who attend training programs emphasizing erosion control, maintenance recording, documenting, spill prevention, recognizing and reporting illicit discharge detections, and inspections. Additionally, the Maintenance Department attends the County Road Standards and Compliance meetings in order to apply the latest in developing of set maintenance standards. Future training programs will be recorded by the Maintenance Manager.

Existing training staff programs will be reviewed periodically to determine if they need to be modified or if new training is necessary to maintain compliance with the permit requirements.

Special Facility Requirements (S5.C.5.i)

Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City in areas subject to the City's Permit that are not required to have coverage under the Industrial Stormwater General Permit. Implementation of non-structural BMPs will begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs will be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP will include periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMP.

The City developed a Stormwater Pollution Prevention Plan (SWPPP) for its Public Works Maintenance and shops facility. [Implementation date: February 1, 2010] The Public Works Maintenance and shops facility accommodates a variety of Public Works buildings and activities, including vehicle maintenance activities. The site also accommodates storage of Parks Department equipment and materials, the Police vehicle impound building and the Animal Control dog kennel.

City staff evaluated and determined that the City owned Municipal Airport, requires an Industrial Facility NPDES Permit. A SWPPP for the airport would likely be required under that permit. The City will be planning budget for and development of an Industrial Facility NPDES Permit application during 2010.

Record Keeping (S5.C.5.j)

Records of inspections and maintenance or repair activities conducted by the City will be maintained in accordance with S9 of the City's Permit, Reporting Requirements.

Currently, the City crews utilize a Maintenance Management System (MMS) that records time and resources spent on all cleaned pipelines, catch basins, ditches, replaced storm pipelines, cleaned vaults, and cleaned ponds related to the City's O&M activities. In addition, the City records areas cleaned and inspected on a yearly basis via paper maps.

Some records of inspections and maintenance or repair activities are currently kept in project file folders that are kept in storage files along with the project contents. In the future, inspections/maintenance and repair activities are to be provided in one storage area that can be easily accessible per S9 of the Permit.

The City is developing improvements to its GIS database, and is implementing a new assets management database. In 2010, the City is implemented a new MMS system (Enterprise Access Maintenance) that integrates with the GIS for future operations activities. In 2009, the City initiated a $680,000 Storm System Mapping project to improve the mapping & inventory of the City's storm system. This project includes filling in necessary field mapping information of unknown system areas. The mapping project is schedule to continue through 2010.

Section 8: Monitoring

A. Permittees are not required to conduct water sampling or other testing during the effective term of this Permit, with the following exceptions:

1. Any water quality monitoring required for compliance with TMDLs, pursuant to section S7 *Compliance with Total Maximum Daily Load Requirements* and

Appendix 2 of this Permit, and

2. Any sampling or testing required for characterizing illicit discharges pursuant to section S5.C.3. or S6.D.3. of this Permit.

There is no approved Total Maximum Daily Load (TMDL) applicable to stormwater discharges from the City's owned and operated storm system.

B. The Permittee shall provide the following information in each annual report:

1. A description of any stormwater monitoring or studies conducted by the Permittee during the reporting period. If stormwater monitoring was conducted on behalf of the Permittee, or if studies or investigations conducted by other entities were reported to the Permittee, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.

No stormwater monitoring was conducted during this permit period.

2. An assessment of the appropriateness of the BMPs identified by the Permittee for each component of the SWMP; and any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.

The BMPs are appropriate because the permit requires them.

3. Information required pursuant to S8.C.2. below.

C. Preparation for future, long-term monitoring

This section does not apply to secondary permittees. However, secondary permittees are required to provide information, maps and access for sampling efforts, as necessary. Secondary permittees are encouraged to participate in the monitoring program.

1. All cities, towns and counties shall prepare to participate in the implementation of a comprehensive long-term monitoring program. The monitoring program will include two components: stormwater monitoring and targeted Stormwater Management Program (SWMP) effectiveness monitoring. Stormwater monitoring is intended to characterize stormwater runoff quantity and quality at a limited number of locations in a manner that allows analysis of loadings and changes in conditions over time and generalization across the permittees' jurisdictions. Stormwater program effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The monitoring program can include long-term monitoring and short-term studies. The results of the monitoring program will be used to support the adaptive management process and lead to refinements of the SWMP.

The City contracted with Herrera Environmental Consultants to develop a monitoring plan. The plan summarizes site selection and the basic monitoring design for two components of the long-term monitoring program specified in the National Pollutant Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater permit (Ecology 2009a): Stormwater monitoring (S8.C.1.a) and Stormwater Management Program Effectiveness (SWMP) monitoring (S8.C.1.b). The monitoring plan follows guidance provided in the Washington State Department of Ecology (Ecology) Monitoring and Reporting Guidance – Phase II Municipal Stormwater Permits (Ecology 2010). The plan is organized into two main sections including information related to the stormwater monitoring sites and SWMP monitoring sites, respectively.

a. Stormwater monitoring

Cities having a population greater than 10,000 and counties having a population greater than 25,000 shall identify sites for long-term stormwater monitoring. Adequate sites will be those completely mapped as required in S5.C.3.a. and be suitable for permanent installation and operation of flow-weighted composite sampling equipment. No later than December 31, 2010:

i. Each county having a population greater than 100,000 shall identify three outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance shall represent commercial land use, the second shall represent low-density residential land use and the third will represent medium-to-high density residential land use.

ii. Each city having a population greater than 75,000 shall identify three outfalls or conveyances where stormwater sampling could be conducted. One outfall or conveyance shall represent commercial land use, the second shall represent high-density residential land use and the third will represent industrial land use.

In 2010, City population is approximately 83,500. The City's monitoring plan includes a proposed monitoring site for one conveyance representing primarily commercial land use, a second proposed monitoring site representing primarily high-density residential land use and a third proposed monitoring site representing primarily industrial land use.

iii. Each county having a population between 25,000 and 100,000 shall identify two outfalls or conveyances where stormwater sampling could be conducted. One outfall shall represent commercial land use and the second one will represent low-density residential land use.

iv. Each city having a population between 10,000 and 75,000 shall identify two outfalls or conveyances where stormwater sampling could be conducted. One outfall shall represent commercial land use and the second will represent high-density residential land use.

v. Permittees shall select outfalls or conveyances based on known water quality problems and/or targeted areas of interest for future monitoring. The Permittee shall document:

- Why sites were selected;
- Possible site constraints for installation of and access to monitoring equipment;
- A brief description of the contributing drainage basin including size in acreage, dominant land use, and other contributing land uses;
- Any water quality concerns in the receiving water of each selected outfall or conveyance.

The SWU conducted a desktop screening assessment to prioritize receiving waters based on the following criteria. Using information from this preliminary screening and evaluation of receiving water concerns, the SWU identified a number of candidate sites in the stormwater conveyance systems draining to these receiving waters based on their representativeness for monitoring runoff from the land use categories identified in the Phase II Municipal Stormwater permit.

The SWU also conducted field visits to determine the feasibility of monitoring at these candidate sites given site-specific characteristics related to monitoring logistics such as the hydraulics in the conveyance system and access.

Information obtained from these field visits helped to narrow down the list of monitoring sites to three monitoring sites selected for long-term monitoring.

The City's monitoring plan identifies possible constraints for installation of and access to monitoring equipment. It also, includes a description of the contributing drainage basin and known water quality concerns in the receiving water of each selected conveyance.

b. SWMP effectiveness monitoring

i. Each city, town and county shall prepare to conduct monitoring to determine the effectiveness of the Permittee's SWMP at controlling stormwater-related problems that are directly addressed by actions in the SWMP. This component of the monitoring program shall be designed to answer the following types of questions:

- How effective is a targeted action or narrow suite of actions?
- Is the SWMP achieving a targeted environmental outcome?

iii. No later than December 31, 2010, each city, town and county shall identify at least two suitable questions and select sites where monitoring will be conducted. This monitoring shall include, at a minimum, plans for stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. This monitoring may also include data collection and analysis of other measures of program effectiveness, problem identification and characterizing discharges for planning purposes.

Two aspects of the stormwater program the City's monitoring plan will focus on include the effectiveness of the new construction sediment and erosion control inspection program and addressing high fecal coliform bacteria concentrations in Johns Creek. The following two questions were prepared to address each of these issues:

1. *How effective are the new construction inspection programs in reducing turbidity levels from construction sites?*
2. *How effective is a targeted public education program for pet waste in reducing fecal coliform bacteria concentrations in Johns Creek?*

iii. For each question, the Permittee shall develop a monitoring plan containing the following elements:

- A statement of the question, an explanation of how and why the issue is significant to the Permittee, and a discussion of whether and how the results of the monitoring may be significant to other MS4s.
- A specific hypothesis about the issue or management actions that will be tested.
- Specific parameters or attributes to be measured.

- Expected modifications to management actions depending on the outcome of hypothesis testing.

The City's monitoring plan addresses each of the above requirements.

2. Monitoring program reporting requirements

a. The fourth annual report shall:

i. Describe the status of identification of sites for stormwater monitoring, if required for the Permittee.

ii. Include a summary of proposed questions for the SWMP effectiveness monitoring and describe the status of developing the monitoring plan, including the proposed purpose, design, and methods.

The City's monitoring plan was included in the fourth annual report.

b. To comply with the requirements of all or part(s) of this section, permittees in a single Urbanized Area or WRIA may choose to submit a collaborative report or reports in lieu of separate reports.

The City Surface Water Utility has also evaluated the cost of implementing a local monitoring program compared to the pay-in option for the Regional Monitoring Plan (based on the City's population). The evaluation summarizes the costs, benefits, and limitations of a local monitoring program based on the 'Monitoring and Reporting Guidance – Phase II Municipal Stormwater Permits' (Ecology 2010) versus the pay-in option for the regionally coordinated monitoring programs to be implemented as part of the Stormwater Monitoring and Assessment Strategy for the Puget Sound Region (Ecology 2011). The costs of the Regional Stormwater Monitoring Program (RSMP) are based on the 'Western Washington Phase II Municipal Stormwater General Permit Preliminary Draft Language' released for public review and comment by the Washington State Department of Ecology on May 16, 2011 (Ecology 2011).

Costs Compared

The cost estimate of the local stormwater monitoring program for a five-year permit term is $362,891 – $513,371. The RSMP cost (pay-in option) for the City over the five-year permit term $288,247 – $311,976. Note: Based on Ecology's draft Permit for the 2013-2018 permit cycle, these costs may need to be updated because the final 2013-2018 permit may have different requirements and different RSMP costs then Ecology had proposed when this monitoring cost evaluation was conducted.

Benefits of Local Monitoring

The benefits of implementing a local monitoring program are as follows:

- *The City can monitor stormwater drainage systems of interest within the City limits to determine impacts of SWMP changes on its water bodies.*

- *The City can address specific SWMP effectiveness questions of interest within the City limits.*
- *The data collected would be specific to water quality in Renton and can be used to educate the public, and when making program, project, and policy decisions.*

Limitations of Local Monitoring

The limitations of implementing a local monitoring program are as follows:

- *Staff knowledge and availability (if sampling is conducted in-house). Additional staff hires or consultants help would likely be needed to implement the program.*
- *Initial monitoring year is expensive with capital costs for equipment purchases.*
- *Replacement of equipment if stolen or vandalized can be expensive and may not always be factored into the monitoring budget for any given year.*

Benefits of opting in to the RSMP

The benefits of opting in to the regional monitoring program are as follows:

- *The City does not have to use limited staff time and availability on stormwater monitoring since it will most likely be contracted out to a third party.*
- *The City does not have to contend with the high capital costs in the initial year of monitoring since the costs will be spread out evenly over the permit term.*
- *The City does not have to contend with the costs of replacing equipment that is stolen or vandalized.*
- *Less expensive than if the City implemented its own monitoring program.*

Limitations of the RSMP

The limitations of opting in to the regional monitoring program are as follows:

- *Monitoring most likely will not be focused on the water bodies and issues within the City limits.*
- *Monitoring may not address the specific SWMP effectiveness monitoring questions that the City would like to have answered since the effectiveness monitoring questions will be selected at a regional and not a local scale.*
- *The ambient monitoring described in the RSMP far oversteps what the Environmental Protection Agency (EPA) outlined for Phase II permittees. The EPA recommends a limited monitoring of a few pollutants of concern. The RSMP is recommending a comprehensive monitoring, which would tie-up the resources Permittees would otherwise use to improve water quality, while gathering no substantive new information.*
- *The Washington Pollution Control Hearings Board (PCHB) is cited as endorsing the requirements in S8. But the requirements are not in accordance with PCHB recommendations. PCHB recommended that a regional*

consortium be established to frame a regional monitoring program, but did not endorse its outcome. The RSMP outcomes would not be in accordance with PCHB recommendations, since: the program is not limited; it does not reduce the economic burden on jurisdictions; the data set would not be generated for several permit cycles (a minimum of ten years); and it would not provide jurisdictions the ongoing feedback allowing them to improve their programs.

- *The comprehensive monitoring required by RSMP is redundant. The common sources of urban stormwater pollutants are well-known and documented by a host of other studies and data sources (conducted by Ecology, National Oceanic and Atmospheric Administration, WA Department of Health, and National Stormwater Quality Database). Rather than spending time and money to assess whether the Western WA Phase I and Phase II Permittees have similar trends in their receiving waters, resources should be directed to known methods of reducing these pollutants (retrofits, maintenance, education, etc.).*
- *The RSMP monitoring is not useful to municipalities for Ecology's intended purpose of feedback for assessing and improving municipalities' pollutant reduction programs and this data will not be available for several permit cycles. Even after the data is collected, it would still not provide clear direction for municipalities. (Urban Stormwater Management in the United States, National Research Council, 2008, states that it is not yet possible to create a protocol that mechanistically links stormwater dischargers to the quality of receiving waters.)*
- *The RSMP has open-ended parameters that would allow it to expand still more in scope, again without taking into account the burden on Permittees to implement these requirements. (Additional sample parameters, Table 4, 2012 Status and Trends Stormwater Monitoring and Assessment Strategy for Small Streams, QAPP.)*
- *The management and oversight of the RSMP is not formally established and is untested. Ecology is proposing to implement this massive regional stormwater monitoring program all at once with very little clarity about how and who will manage and administer this program. Once the program is established in the permit, the cost will likely increase in subsequent future permit updates and jurisdictions would have no option but to pay into the RSMP or be in violation of the NPDES permit.*

Record Keeping (S9.E.4)

4. Permittees shall include with the annual report submitted no later than March 31, 2011 information that at a minimum includes:

   a. A summary of identified barriers to the use of low impact development (LID) within the area covered by the permit and measures to address the barriers. Each individual Permittee must complete this summary.

b. A report completed by an individual Permittee or in cooperation with multiple Permittees describing, at a minimum:

   i. LID practices that are currently available and that can reasonably be implemented within this permit term.

   ii. Potential or planned non-structural actions and LID techniques to prevent stormwater impacts.

   iii. Goals and metrics to identify, promote, and measure LID use.

   iv. Potential or planned schedules for the Permittee(s) to require and implement the non structural and LID techniques on a broader scale in the future.

The City Surface Water Utility prepared a report that identifies barriers to implementing LID approaches in the City of Renton. Barriers were identified through a literature review and internal discussions with City Departments.